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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,307	09/12/2001	Masakazu Mimura	56937-033	2562

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EXAMINER

MISLEH, JUSTIN P

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 09/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/936,307

Applicant(s)

MIMURA ET AL.

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4 - 16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 4 - 8, and 10 - 16 is/are rejected.
- 7) ☒ Claim(s) 1 and 9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 12 September 2001 was filed before the mailing date of this Non-Final Office Action. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the Examiner.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because reference sign 11 (figure 1) is not described in the description.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: F is not shown in figures 1 or 2 as described on pages 8, 9, 11, and 12.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the Examiner, the

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Applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities: a typographical error. On page 9 (lines 14 and 15), after careful consideration of the context, the Examiner believes "Fig. 3" is mislabeled and should state "Fig. 2". Furthermore, Fig. 3 is, at least, described beginning on page 9 (line 16); it is not explicitly stated that the discussion is directed to Fig. 3.

5. The disclosure is objected to because of the following informalities: improper placement of description of reference sign 11. Reference sign 11 is first described on page 11 (line 9) in connection with figure 2; however, reference sign is first shown in figure 1.

Appropriate correction is required.

Claim Objections

6. **Claim 1** is objected to because of the following informalities: improper reference to the preceding.

Claim 1 states, "A television camera which **adjusts the level of the R, G, and B signals** obtained through a three-color separation optical system to keep the white balance comprising"; however, no "level of R, G, and B signals" has been introduced.

Claim 1 also states, "control means for setting the level adjusting values of the R, G, and B signals according to the diaphragm signal indicating the diaphragm condition of a taking lens;

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and”; however, no “level adjusting values of R, G, and B signals”, “diaphragm signal”, and “diaphragm condition” has been introduced.

These types of informalities occur repeatedly throughout Claim 1. To overcome the objection, Claim 1 needs to introduce a limitation or phrase prior to referring back to the same limitation or phrase. The Examiner asks the Applicant to thoroughly review all the claims for similar informalities and/or any other issue that compromise the clarity of the claims. For the sake of examination, the Examiner will treat the claims as if these informalities, if any, have been corrected.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1 and 4 – 8, and 10 – 16** are rejected under 35 U.S.C. 102(b) as being anticipated by Murakami (JP 06-178198 A). The Examiner has provided an English language computer translation of this document along with an English language abstract. The Examiner will rely on both the figures and translation to for the following rejections.

9. For **Claim 1**, Murakami teaches that the present invention is provided to solve a problem of decreases in image quality due to improper white balance when a diaphragm is opened, wherein every color non-uniformly changes according to the diaphragm value (see figure 7).

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Murakami further teaches that the problem can be solved, in the very least, by obtaining the diaphragm opening value (see figures 1 and 2) to calculate white balance corrections for every color.

In regards to the claim language, Murakami discloses, as shown in figure 1, that the light is separated into red, green, and blue light by the color separation prism (2) wherein the separated colors are individually and respectively captured by three solid-state image sensors (3a, 3b, and 3c). The diaphragm opening value is passed to control means (6), which sets level adjusting values (9a, 9b, and 9c) for the red, green, and blue signals, respectively. The level adjusting values (9a, 9b, and 9c) are passed to the white balance correction means (5a, 5b, and 5c) to correct the white balance of the red, green, and blue signals, individually and respectively. Furthermore, Murakami teaches, that the diaphragm opening value is provided only when the diaphragm is opened beyond a stop value corresponding to F8 (e.g. F1.4 – F8).

The progression of white balance correction is clearly distinguished in figures 7 and 8. In figure 7, Murakami explicitly shows that when a diaphragm is opened beyond a value of F8, that “the balance of the level of the output signal of each sold state image sensor will collapse, a white balance changes according to the diaphragm, and there is a problem that the color reproduction nature of an image deteriorates ... wherein every color non-uniformly changes according to the diaphragm value”. In figure 8, Murakami explicitly shows the results of the present invention wherein the diaphragm is opened beyond a value of F8 and corrections for the unevenness of “every pixel” are applied so that “the phenomenon of irregular color and color shading in a composite signal of three solid state image sensors can also be canceled.” The last claim limitation of Claim 1 requires that the level adjusting value set in the control means is set

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at a value by which the level of an arbitrary one signal is caused to be increased or decreased relatively to that of other both signals. The Examiner believes this limitation corresponds to figure 3 of the Applicant's present invention. Figure 7 of Murakami is nearly identical to figure 3 of the Applicant's present invention and applying the white balance correction disclosed by Murakami, to obtain figure 8, directly corresponds to the recited claim limitation. In conclusion, the individual colors (red, green, and blue) are individually adjusted relatively to the remaining individual colors so as to obtain a balance between all three of the colors, as clearly shown in figures 7 and 8 of Murakami.

10. For **Claims 8 and 10**, Murakami teaches that the present invention is provided to solve a problem of decreases in image quality due to improper white balance when a diaphragm is opened, wherein every color non-uniformly changes according to the diaphragm value (see figure 7). Murakami further teaches that the problem can be solved, in the very least, by obtaining the diaphragm opening value (see figures 1 and 2) to calculate white balance corrections for every color.

In regards to the claim language, Murakami discloses, as shown in figure 1, that the light is separated into red, green, and blue light by the color separation prism (2) wherein the separated colors are individually and respectively captured by three solid-state image sensors (3a, 3b, and 3c). The diaphragm opening value is passed to control means (6), which sets level adjusting values (9a, 9b, and 9c) for the red, green, and blue signals, respectively. The level adjusting values (9a, 9b, and 9c) are passed to the white balance correction means (5a, 5b, and 5c) to correct the white balance of the red, green, and blue signals, individually and respectively.

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Furthermore, Murakami teaches, that the diaphragm opening value is provided only when the diaphragm is opened beyond a stop value corresponding to F8 (e.g. F1.4 – F8).

11. As for **Claims 4 – 6 and 13 – 15**, Murakami discloses, as stated above, that the transition between figures 7 and 8, shows a white balance correction, the individual colors (red, green, and blue) are individually adjusted relatively to the remaining individual colors so as to obtain a balance between all three of the colors. This process has to be performed with each of the three individual colors; otherwise, a balance will not be obtained. Therefore, Murakami anticipates wherein the arbitrary one signal is red, green, and blue.

12. As for **Claims 11 and 12**, the progression of white balance correction is clearly distinguished in figures 7 and 8. In figure 7, Murakami explicitly shows that when a diaphragm is opened beyond a value of F8, that “the balance of the level of the output signal of each solid state image sensor will collapse, a white balance changes according to the diaphragm, and there is a problem that the color reproduction nature of an image deteriorates ... wherein every color non-uniformly changes according to the diaphragm value”. In figure 8, Murakami explicitly shows the results of the present invention wherein the diaphragm is opened beyond a value of F8 and corrections for the unevenness of “every pixel” are applied so that “the phenomenon of irregular color and color shading in a composite signal of three solid state image sensors can also be canceled.” The last claim limitation of Claim 1 requires that the level adjusting value set in the control means is set at a value by which the level of an arbitrary one signal is caused to be increased or decreased relatively to that of other both signals. The Examiner believes this limitation corresponds to figure 3 of the Applicant’s present invention. Figure 7 of Murakami is nearly identical to figure 3 of the Applicant’s present invention and applying the white balance

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correction disclosed by Murakami, to obtain figure 8, directly corresponds to the recited claim limitation. In conclusion, the individual colors (red, green, and blue) are individually adjusted relatively to the remaining individual colors so as to obtain a balance between all three of the colors, as clearly shown in figures 7 and 8 of Murakami.

13. As for **Claims 7 and 16**, Murakami discloses that the white balance is corrected in the white balance correction means (5a, 5b, and 5c) for each of the red, blue, and green signals when the diaphragm has been opened beyond a predetermined value (F8). Therefore, Murakami discloses wherein setting the level adjusting value in the said control means (6) and level adjusting according to the level adjusting value in said white balance correcting means (5a, 5b, and 5c) are performed in response to a change in the diaphragm condition of the taking lens (the change in diaphragm condition corresponds to a change in stop value from F8 – F11 near fully closed position to F1.4 – F7 near fully opened position).

Allowable Subject Matter

14. **Claim 9** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The closest prior art (Murakami) teach that when a diaphragm is in a near fully open condition, e.g. F1.4 – F8, a diaphragm opening value is used to individually and respectively adjust optically color separated image signals so as to correctly balance the respective color separated image signal to the remaining color separated image signals and hence performing a white balance correction based upon diaphragm opening values only when the diaphragm has

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exceeded a predetermined opening value and the closest prior art also teach (US 5,319,449) a white balance correcting method that when brightness in an image exceeds a predetermined value, predetermined fixed adjusting values are used for white balancing and when brightness in an image does not exceed a predetermined value, newly set adjusting values are used for white balancing.

However, the closest prior art does not teach or fairly suggest wherein a microcomputer, for setting the adjusting values, previously stores and applies, individually and respectively, white balance adjusting values to the color separated image signals when the diaphragm is in a condition when it is not opened near to the opening end and wherein the microcomputer newly stores and applies, according to the diaphragm opening values, individually and respectively, white balance adjusting values to the color separated image signals.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure. The following is brief description of the cited prior art as labeled on attached form PTO-892:

- **Prior Art B** discloses a white balance correcting method that corrects for white balance according to the operational mode of the image pickup apparatus. Upon a change of operational mode, the iris is adjusted to a suitable position for the mode of operation wherein the new position of the iris is submitted to a microcomputer for setting white balance adjusting values.

- **Prior Art C, D, and E** all disclose a white balance correcting method wherein the white balance adjusting values are determined from a position of an iris.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 5:30 PM and on alternating Fridays from 7:30 AM to 4:30 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM

September 2, 2004


NGOE-YEN VU
PRIMARY EXAMINER